

WHAT IS CLAIMED IS:

1. A movement decision method for capturing sub-pixel motion image suitable for super-resolution processing characterized by

while an image capturing object is moved along a predetermined one-dimensional moving direction, a sequential image of said image capturing object is captured by a fixed image capturing device,

said sequential image is set to a two-dimensional sub-pixel motion image suitable for super-resolution processing,

and said one-dimensional moving direction of said image capturing object in a coordinate system normalized by aspect ratio of pixel of an image capturing element within said image capturing device is determined to  $p/q$  of a rational number,

wherein:

one pixel of vertical direction of said coordinate system is divided by an integer  $p$ , and one pixel of horizontal direction of said coordinate system is divided by an integer  $q$ .

2. A movement decision method for capturing sub-pixel motion image suitable for super-resolution processing according to Claim 1, wherein absolute value of said integer  $p$  and absolute value of said integer  $q$  are integers which is

not a small integer.

3. A movement decision method for capturing sub-pixel motion image suitable for super-resolution processing according to Claim 1, wherein a moving direction for setting value of an evaluation function  $Cover(Lact)$  to be smaller than 1 is set to said one-dimensional moving direction of said image capturing object when magnification of said super-resolution processing is fixed and known.

4. A movement decision method for capturing sub-pixel motion image suitable for super-resolution processing according to Claim 1, wherein a moving direction for setting value of an evaluation function  $SCover(LM)$  to be smaller than 1 is set to said one-dimensional moving direction of said image capturing object.

5. An image capturing device which captures a two-dimensional sub-pixel motion image suitable for super-resolution processing,

said image capturing device comprises:

a driving mechanism which one-dimensionally drives an image capturing element within said image capturing device along an image capturing element moving direction,

wherein:

said one-dimensional moving direction of said image capturing object determined by the method according to one of Claims 1 to 4 is set to said image capturing element moving direction,

a sequential image of a fixed image capturing object is captured while said image capturing element is moved by said driving mechanism along said image capturing element moving direction,

and said sequential image is set to said two-dimensional sub-pixel motion image.

6. An image capturing device which captures a two-dimensional sub-pixel motion image suitable for super-resolution processing,

said image capturing device characterized by  
arranging a member for optically moving image in a predetermined direction between a lens and an image capturing element,

wherein:

said one-dimensional moving direction of said image capturing object determined by the method according to one of Claims 1 to 4 is set to said predetermined direction,

a sequential image of a fixed image capturing object is captured,

and said sequential image is set to said

two-dimensional sub-pixel motion image.